## ISSUE SLIP STAPLE AREA (for additional cross references)

| POSITION            | INITIALS | (C 140.  | DATE       |
|---------------------|----------|----------|------------|
|                     |          | <u> </u> | 1, 1, 1,00 |
| FEE DETERMINATION   | VI       | 104001   | 11/16/19   |
| O.I.P.E. CLASSIFIER | 1        | 75       | 11/939     |
| FORMALITY REVIEW    | 19KS     | 7110     | 12-14      |

## INDEX OF CLAIMS

| ~ | Rejected                   | N   | Non-elected  |
|---|----------------------------|-----|--------------|
|   | Allowed                    | - 1 | Interference |
| _ | (Through numeral) Canceled | Α   | Appeal       |
| ÷ | Restricted                 | 0   | Objected     |

| Claim             | Т          |               | _            | $\overline{}$           | Dat      | e             | _              |                 |          |  | 1 | Co            | im I          |             | _        |           | _        | Dat        |           |          |          | _        | _        | C        |               | _        |   | _  |              | ~  |              |  | _        |          |    |
|-------------------|------------|---------------|--------------|-------------------------|----------|---------------|----------------|-----------------|----------|--|---|---------------|---------------|-------------|----------|-----------|----------|------------|-----------|----------|----------|----------|----------|----------|---------------|----------|---|--|--------------|--|--------------|--|----------|----------|----|
|                   |            |               |              |                         |          |               | ł              | Claim Date      |          |  |   |               |               |             |          |           | $\dashv$ | Claim Date |           |          |          |          |          |          |               |          |   | _  | _            |  |              |  |          |          |    |
| Final<br>Original | Q!         | 12            | 120/03       | 6/24/6                  |          |               |                |                 |          |  |   | Final         | Original      | ĺ           | ı        |           |          |            |           |          |          |          |          | <br>     | Original      |          |   |  |              |  |              |  |          |          |    |
| ᄩ                 | 1/2        | 8             | <u>ક</u>     | 19                      |          |               |                | 匚               | L        | L_   |   | ů.            | δ             |             |          |           |          |            |           |          |          |          |          | Final    | ŏ             |          |   |  | l            |  |              |  |          |          | ı  |
|                   | J. Z       | 7             | /            | <                       |          |               | Γ              |                 |          | Г  |   |               | 51            | T           | П        |           | $\neg$   |            |           |          |          |          |          |          | 110           |          | _ | Г  | Г            | Г  | _            |  | Т        |          | T  |
| 2                 | 10         | 7             | 7            | >                       |          |               | П              |                 |          | П  | 1 | П             | 52            | Т           | T        | 乛         |          |            |           |          |          |          |          |          | 112           |          |   | Г  | Г            | Г  |              |  |          |          | t  |
| 3                 | 17         | V             | 7            | 7                       |          |               | Г              |                 |          | Г  | 1 |               | 53            | ╅           | ヿ        | $\neg$    | コ        |            |           |          |          |          | П        |          | 113           | $\neg$   |   | Г  | T            | <u></u>  | Н            | Н  | H        | Н        | H  |
| 4                 |            | 7             | 7            | 7                       | П        |               | 1              |                 |          | <del>                                     </del> | 1 | $\Box$        | 54            | _           | ┪        | 1         | ┪        | $\dashv$   |           | _        |          | Н        | Н        | -        | 114           | 一        | _ | <del>                                     </del> | ┢            | Н  | $\vdash$     | ┝  | ⊢        | ⊢        | ┢  |
| 5                 | 17         | 7             | 7            | V                       |          |               | _              |                 |          | t  | ĺ | Н             | 55            | 十           | ┪        | ┪         | ┪        | ┪          |           | $\neg$   |          | H        | $\dashv$ | <u> </u> | 115           | ┪        | _ | ⊢  | ⊢            | Н  | $\vdash$     | $\vdash$   | _        | Н        | H  |
| 6                 | •          | <del></del> - | 7            | 7                       |          |               | Н              | Н               | Н        | Н  | ĺ | $\vdash$      | 56            | +           | ┪        | ┪         | -        | 一          |           |          |          | Н        | $\dashv$ | $\vdash$ | 116           | -        |   | ⊢  | $\vdash$     | ┢  | ┝            | $\vdash$   | ┝        | ⊢        | ┝  |
| 17                | Ť          | 7             | 7            | Ž                       |          | $\overline{}$ |                | H               | ┢        | <del>                                     </del> | 1 | H             | 57            | $\dashv$    | ┪        | ┪         | ╛        | ┪          | _         |          | -        | Н        | $\dashv$ | -        | 117           | ┪        | _ | ├  | $\vdash$     | $\vdash$   | ⊢            | ⊢  |          | -        | ⊦  |
| 8                 |            | v             | 1            | W                       | $\dashv$ | _             | -              | -               | ⊢        | ╁  | ł | $\vdash$      | 58            | +           | ┪        | ┪         | ┪        | ┪          | -         | $\dashv$ |          | Н        | -        | $\vdash$ | 118           | $\dashv$ | _ | ⊢  | ⊢            | ⊢  | ┝╼           | H  | -        | ⊢        | ⊢  |
| 9                 |            | Ž             | <del>/</del> | V                       | $\vdash$ | ۲             |                | Н               | ┝        | ╌  | ł | $\vdash$      | 59            | +           | $\dashv$ | ┪         | ┥        | -          | $\dashv$  | -        |          | Н        |          | $\vdash$ | 119           |          |   | ⊢  | ⊢            | H  | ┝╌           | -  | <u> </u> | ⊢        | ╀  |
| 10                | -          | -             | 4            |                         |          | -             | $\vdash$       | ┢               | ⊢        | ⊢  | ł |               | 90            | +           | +        | -+        | $\dashv$ | ┥          | -         | -        | -        | Н        | $\dashv$ | -        |               | ┥        | _ | ⊢  | ├—           | H  | $\vdash$     | <b>-</b>   | $\vdash$ | ⊢        | ╀  |
| 111               |            |               | Ź            | Y                       | $\dashv$ | =             | $\vdash$       | Н               | -        | ╀  | 1 |               | 61            | +           | $\dashv$ | ┥         | ┥        | ᆔ          | $\dashv$  | _        | -        | Н        |          | $\vdash$ | 110<br>111    |          |   | <u> </u>   | ⊢            | Н  | <b>-</b>     | ┝  | Щ        | ├-       | ₽  |
| 13                |            | 7             | _            |                         | $\dashv$ |               | ⊢              | $\vdash$        | H        | ⊢  |   |               | 62            | +           | -+       |           | ┥        | $\dashv$   | $\dashv$  |          | -        |          | -        | <u> </u> | -             | -        |   | <b>!</b>   | <u> </u>     | <u> </u>   |              | L  |          | ╙        | L  |
| 13                | _          |               | 1            | $\langle \cdot \rangle$ | $\dashv$ | щ             | <del> </del> — | <del> </del>    | $\vdash$ | ⊢  | ł |               | :_            | +           | +        |           |          |            | $\dashv$  | -4       |          | Ц        | Ш        | <u> </u> | 112           | 4        |   | $\vdash$   | $\vdash$     | <b> </b>   | Щ            | ш  | Ш        | L        | L  |
|                   |            |               | 4            | 7                       | Н        | Щ             | ├-             | Ь.,             | $\vdash$ | <b>—</b>   |   | $\vdash$      | 63            | 4           |          | -1        | _        | _          | _         |          | _        | Ш        | Щ        | <u> </u> | 113           | _        |   | ╙  | Щ            |  | Ш            | Щ  | Ш        | L        | L  |
| 14                | -          | ¥             | Ļ            | >                       | Ш        | Щ             | $\vdash$       | $\vdash$        | $\vdash$ | ₽  | l | $\vdash$      | 64            | 4           | $\dashv$ | 4         |          | _          | 1         | _        |          | Ы        | _        | $\vdash$ | 114           | _        | _ | $\vdash$   | Ш            | Ш  | L.,          |  |          | L        | L  |
| 15                |            |               | 4            | 7                       | Щ        | Щ             | <u> </u>       | Щ               | <u> </u> | ╙  | [ | $\rightarrow$ | 65            | 4           | 4        | _         |          | [          | _         |          |          | Ш        |          | $\perp$  | 115           | ┙        |   |  |              | $oldsymbol{ol}}}}}}}}}}}}}}}}}}$ |              | L  |          | L        | L  |
| 16                | -          | 7             | 1            | 1                       | Щ        | Щ             | <u> </u>       | ш               | L        | $oxed{oxed}$                                     |   | -             | 66            | _           | _        | $\perp$   | _        | [          |           |          |          |          |          | _        | 116           | _[       |   |  |              |  |              |  |          |          | Ĺ  |
| 17                | 14         |               | 1            | 7                       | Ц        | Щ             |                |                 |          | 乚  |   | $\rightarrow$ | 67            | Ц.          | _        |           |          | _          |           |          |          |          |          |          | 17            |          |   |  |              |  |              |  |          |          |    |
| 18                | Ľ          | _             | K            | ۷                       |          |               |                |                 |          |  |   | Ш             | 68            |             |          |           |          |            |           |          |          |          |          |          | 118           |          |   |  |              |  |              |  |          |          | Г  |
| 19                | $\sqrt{J}$ | i/            | 1            | V                       |          |               |                |                 |          |  |   |               | 69            |             |          | Ţ         |          |            |           |          |          |          |          |          | 119           | П        |   |  |              |  |              |  |          |          | Г  |
| 20                |            |               | 0            | V                       |          |               |                |                 |          | П  | 1 | П             | 70 ¦          | T           |          | $\neg$    | T        | $\neg$     |           |          |          |          |          |          | 120           | ╛        |   | П  |              |  | П            |  |          |          | T  |
| - 31              |            | -             | ō            | J                       | $\neg$   |               | -              | П               | Н        | ١.   | 1 | $\Box$        | 71            | 7           | ┪        | ┪         | 一        | -1         | ┪         |          |          | $\neg$   | $\dashv$ |          | 121           | ┪        | _ | ┝  | Н            | Н  | Н            | Н  |          |          | ┢  |
| . 22              | -          |               | Ť            |                         | ┪        | $\neg$        | $\vdash$       |                 | ┢        | -  | İ | <b>—</b>      | 72            | ┪           | +        | 1         |          | ┪          | $\dashv$  | _        | -        | $\dashv$ | $\dashv$ |          | 122           |          | - | ┢  | $\vdash$     | H  | H            | ┝┈   |          | ⊢        | ┢  |
| 23                |            | Н             | -            | $\dashv$                | ┪        | $\dashv$      |                | 7.7             | =        | Ť  |   |               | 73            | 2           | +        | ┪         | ┪        | ┪          | $\dashv$  | $\dashv$ | -        | $\dashv$ | $\dashv$ | $\vdash$ | 123           | ┪        | _ | -  | ⊢            | -  | <del> </del> | -  | -        | -        | ۲  |
| 24                |            | Н             | -            | Н                       | _        | $\dashv$      |                | Н               | ⊢        | ⊢  | 1 |               | 74            | ╅           | $\dashv$ | -         | ┪        | ┪          |           | $\dashv$ |          |          | -        |          | 124           | ┥        |   | ⊢  | ⊢            | ⊢  |              |  | H        | $\vdash$ | ₽  |
| 25                | _          | Н             |              | -                       | $\dashv$ | $\dashv$      | -              | H               | -        | ⊢  |   | $\vdash$      | 75            | -+          | $\dashv$ | -+        | $\dashv$ | ┥          | ⇥         | -        |          | =        | $\dashv$ | -        | $\rightarrow$ | $\dashv$ |   | ⊢  | ├            | <del> </del>   | ┝            |  | ⊢        | ⊢        | ╀  |
| 26                |            | H             | $\vdash$     | $\dashv$                | $\dashv$ | -             | -              |                 | $\vdash$ | ⊢  |   | $\rightarrow$ | 76            | +           | $\dashv$ | $\dashv$  | $\dashv$ | ┥          | -         | -        |          | Н        | $\dashv$ |          | 125           | ⊣        |   | ⊢  | ⊢            | ├—   | ├            | -  | ┝        | ┡        | ╀  |
| _                 | Н          | Н             | $\vdash$     | $\dashv$                | -        |               | -              |                 | ┝        | ⊢  | l |               | <del>//</del> | +           | $\dashv$ | $\dashv$  | -        |            | -         | _        |          |          |          | $\vdash$ | 126           | -        |   | ├-   | _            | ⊢  | ⊢            | _  | -        | ┞        | ╄  |
| 27<br>29          | ╀┥         | Н             | Н            | $\dashv$                |          | $\dashv$      |                | Н               | -        | ├  | 1 | -             | _             | +           | $\dashv$ |           | -        |            | _         | _        | -        | _        | Н        | $\vdash$ | 127           | 4        |   | _  | ┡            | <u> </u>   | ╙            | <u> </u>   | <u> </u> | ╙        | Ļ  |
| 29                | Н          | Н             | _            | -                       | ٠        | _             |                |                 | <b> </b> | ├  |   |               | 78            | 4           | -        |           | _        | _          | _         |          |          | Ш        | Ш        | <u> </u> | 128           | _        |   | _  | L            | L  | _            | 느  | L        | ╙        | Ļ  |
|                   | Н          | Щ             | $\vdash$     | $\dashv$                |          | Ш             | $\vdash$       | Щ               | _        | <u> </u>   | ĺ | $\vdash$      | 79            | 4           | 4        | _         | _        | _          | _         |          | _        |          |          | $\vdash$ | 129           | _        |   |  | L            | _  | <u> </u>     | 匚  | L        | L        | L  |
| 30                |            | Щ             | _            |                         | _        | _             | _              | Ш               | <u> </u> | <u>_</u>   | Į |               | 70            | 4           | _        | _         | _        | _          |           |          |          |          | Ш        |          | 130           |          |   |  | <u> </u>     |  |              | L  |          |          | L  |
| 31                | _          | Щ             |              |                         | _        |               | Щ              |                 | _        | 辶  | Į | Ш             | 81            | 4           | _        | _         | _        | _          |           |          |          |          |          |          | 131           |          |   | _  | L            | L  |              |  |          |          | L  |
| 32                | _          | Ш             |              | Ц                       | _        |               |                | Ц.              |          | 乚  |   |               | 82            | _           |          |           |          |            |           |          |          |          | Ш        | L        | 132           |          |   |  |              |  | l            | Ι  | l        |          | L  |
| 33                |            |               |              |                         |          |               |                |                 | _        |  | ] | -             | 83            | $_{\perp}$  |          |           |          | ]          |           |          |          |          |          |          | 133           |          |   |  |              | Γ-   | Γ            |  | П        |          | Γ  |
| 34                | Ш          | Ш             | Ш            |                         |          | ]             |                |                 | L        | L  |   | $\vdash$      | 84            | Ĭ           | J        | $\Box$    |          |            |           |          |          |          |          |          | 134           |          |   |  |              |  |              |  | Γ        | Γ        | Γ  |
| 35                | Ш          | Ш             |              | ot                      |          |               |                |                 | Ĺ        |  |   |               | 85            | $ \rfloor $ | J        | J         | ┚        |            |           |          |          |          |          |          | 135           |          |   | Г  | Π            | Ι_   | <u> </u>     | T  | Γ        | Π        | Γ  |
| 36                | $\Box$     |               |              |                         |          |               |                |                 |          |  |   |               | 86            | _T          | $\Box$   | $\neg$    |          |            |           |          |          |          |          |          | 136           |          |   | Г  | Г            |  | Г            |  | Γ        | Γ        | Γ  |
| 37                |            |               |              |                         |          |               |                |                 |          |  |   |               | 87            | T           | $\neg$   | 7         |          | $\neg$     | _         |          |          | $\Box$   | $\Box$   |          | 137           |          |   | Г  | ı            |  | Г            |  | T        | Т        | Τ  |
| - 38              | П          |               |              |                         | コ        |               |                |                 |          | Г  | ì |               | 88            | 寸           | 7        | 7         | $\neg$   | $\neg$     | $\exists$ |          | П        | П        | $\Box$   |          | 138           |          |   | Г  | Т            | <b> </b>   | ┢            | <del>                                     </del> | 1        | Г        | T  |
| 39                | П          |               | П            |                         | 寸        | ٦             |                | П               | Г        | Г  | 1 |               | 89            | 7           | 7        | ┪         | $\neg$   | $\dashv$   | $\exists$ | -        | $\dashv$ | Н        | $\vdash$ |          | 139           | -        |   | $\vdash$   | $\vdash$     | $\vdash$   | ┪            | $\vdash$   | $\vdash$ | ┢        | t  |
| 40                | П          |               | П            |                         | _        | _             |                | П               | Г        | <u> </u>   | 1 | -             | 90            | 寸           | 7        | $\dashv$  | $\dashv$ | $\dashv$   | $\dashv$  | -        | -        | -        | $\vdash$ | -        | 140           | -        |   | -  | $\vdash$     | $\vdash$   | $\vdash$     | $\vdash$   | $\vdash$ | +-       | t  |
| 41                | $\vdash$   | $\vdash$      | H            | $\vdash$                |          | $\dashv$      |                | H               | -        | Н  | 1 | $\rightarrow$ | 91            | +           | +        | $\dashv$  | $\dashv$ |            | -         |          | $\dashv$ | Н        | $\vdash$ | -        | -             |          |   | $\vdash$   | $\vdash$     | $\vdash$   | $\vdash$     | $\vdash$   | $\vdash$ | $\vdash$ | ╀  |
| 42                | Н          | $\vdash$      | ⊢⊣           | $\dashv$                | $\dashv$ | $\dashv$      | -              | $\vdash$        | $\vdash$ | ⊢  |   |               | 1_            | +           | -        |           | $\dashv$ |            | 4         |          |          | <u> </u> | Н        | _        | 141           | _        | _ | <u> </u>   | <del> </del> | _  | ├            | <u> </u>   | ⊢-       | <u> </u> | ╀  |
| 43                |            | $\vdash$      | $\vdash$     |                         |          | $\dashv$      | $\vdash$       | $\vdash$        | -        | $\vdash$   | ł |               | 92            | +           | -        |           | 4        | _          | 4         |          | Щ        | $\vdash$ | $\vdash$ | $\vdash$ | 142           | _        | _ | ⊢  | <b> </b>     | <b> </b>   | ļ            | <b> </b>   | <u> </u> | <b> </b> | ╀- |
|                   | _          | $\vdash$      | Н            |                         |          | $\dashv$      | H              | Щ               |          | $\vdash$   | ļ | _             | 93            | -           | 4        | 4         |          |            |           |          | Ш        | Щ        | Ш        |          | 143           |          |   | ╙  |              |  | ᆫ            | <u> </u>   | _        | L        | L  |
| 44                |            | Ш             | Щ            | $\Box$                  | _        |               | Щ              | $\vdash \dashv$ | <u> </u> | ⊢-   | 1 |               | 94            | 4           | _        | 4         |          | _          |           |          | Ш        |          |          |          | 144           |          | _ | L  | $\perp$      | _  | 上            | _  | L        | ot       | L  |
| 45                |            | _             | Ш            |                         |          | _             | Щ              | Щ               | <u> </u> | $\vdash$   |   |               | 95            | 4           | _        |           | _        | _          | _         |          |          | Ш        | Ш        |          | 145           | _]       |   | Ĺ  |              |  |              |  | <u> </u> | L        | L  |
| 46                | 닏          | Ш             | 4            |                         |          | Ц             | Щ              | Щ               | _        | ╙  | 1 |               | 96            | $\perp$     | $\perp$  |           |          | l          |           |          |          | لــا     |          |          | 146           |          | _ | Ĺ  |              |  |              |  |          | Ĺ        | L  |
| 47                | Ш          |               | Ŀ            |                         | ╝        |               |                |                 |          | L  |   |               | 97            | _[          | _T       | _1        |          |            | П         |          |          |          |          |          | 147           |          |   | Γ  |              |  | Г            | П  | Γ        | Γ        | Γ  |
| 48                |            |               |              |                         |          |               |                |                 |          | $\Box$   | ] |               | 98            |             | $\dashv$ | コ         | $\neg$   |            |           |          |          | П        | П        |          | 148           | ┪        |   | Г  | ऻ            | 1  | Г            | Г  | Г        | Γ        | Γ  |
| 49                |            |               |              |                         | $\Box$   |               |                |                 |          |  |   |               | 99            | T           | 寸        | $\exists$ | $\dashv$ | 一          | T         |          | П        | Т        | $\Box$   |          | 149           | T        |   | <del>                                     </del> | Т            | Г  | -            | 1  | Г        | 1        | T  |
| 50                |            |               |              | _                       | _        | _             | _              | _               | _        | _  | • | ,—            | 100           |             | _        |           | _        |            | _         |          |          | _        | _        |          | 150           |          |   | _  |              | _  |              |  |          | _        | _  |

If more than 150 claims or 10 actions staple additional sheet here

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